

REMARKS/ARGUMENTS

Favorable reconsideration of this application in view of the present amendment and in light of the following discussion is respectfully requested.

Claims 2-11, 13 and 14 are presently active in this case. The present amendment amends Claims 2-6 and 8-11; cancels Claims 1 and 12; and adds Claims 13 and 14. The amendments to Claims 2-6 and 8-11 and new Claims 13 and 14 find support in the specification as originally filed, for example, at page 7, line 3 to page 13, line 16 with corresponding Figures 1 and 2. Thus, it is respectfully submitted that no new matter is added.

The outstanding Office Action rejected Claim 6 under 35 U.S.C. § 112, second paragraph, as being indefinite; rejected Claims 1-8 and 10-12 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,656,560 to Yamamoto et al. (herein "Yamamoto"); rejected Claims 1-12 under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto; rejected Claims 1-12 under 35 U.S.C. § 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 6,773,781 to Ohsawa et al. (herein "Ohsawa I"); rejected Claims 1-8 and 10-12 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,360,057 to Tsumagari et al. (herein "Tsumagari"); rejected Claims 1-12 under 35 U.S.C. § 103(a) as being unpatentable over Tsumagari; rejected Claims 1-8 and 10-12 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,934,231 to Ohsawa (herein "Ohsawa II"); and rejected Claims 1-8 and 10-12 under 35 U.S.C. § 102(b) as being anticipated by U.S. Publication No. 2005/0259561 to Nakamura et al. (herein "Nakamura").

It is respectfully noted that references AP and AQ listed on the Form PTO-1449 submitted with the Information Disclosure Statement filed September 24, 2003 were not initialed. It is respectfully requested that a Form PTO-1449 with these two references initialed be provided with the next Office communication.

With regard to the rejection of Claim 6 under 35 U.S.C. § 112, second paragraph, as indefinite, that rejection is respectfully traversed.

Claim 6 is amended to recite “wherein invalid information is recorded on the non-recording zone on the second recording layer.” Accordingly, it is respectfully submitted that Claim 6 is in compliance with all requirements under 35 U.S.C. § 112, second paragraph. It is respectfully requested that the rejection of Claim 6 under 35 U.S.C. § 112, second paragraph, be withdrawn.

Briefly recapitulating, the invention recited in Claims 13 and 14 relates to a multi-layered optical disk and an optical disk recording/reproducing apparatus. More specifically, Claim 13 relates to a multi-layered optical disk having an inner peripheral side and an outer peripheral side, to which information is recorded with a focused light beam, including: a transparent substrate; a first recording layer and a second recording layer faced to each other and supported by the transparent substrate; the first recording layer having a non-erasable information zone on which a pit array of non-erasable information is formed and a first recordable zone on which a first recording mark array is formed with an irradiation of the focused light beam passing through the transparent substrate; and the second recording layer having a non-recording zone on which information data is prevented from being recorded and a second recordable zone on which a second recording mark array is formed with the irradiation of the focused light beam, wherein the pit array includes a first pit array of invalid information and a second pit array of valid information which are arranged between the inner peripheral side, the non-recording zone is so arranged at the inner peripheral side as to face the non-erasable information zone and includes an illumination region on which a beam spot is formed by the light beam focused on the non-erasable information zone, and the second recordable zone is arranged between the non-recording zone and the outer peripheral side.

In the optical disk recited in Claim 13 and the recording/reproducing apparatus on the optical disk recited in Claim 14, the read-only area includes the pit array of invalid information and the pit array of valid information, and the pit array of valid information is arranged in the outer side of the pit array of invalid information.

In the innermost edge of the non-recording zone, physical characteristics differ from those of other zones. That is, physical characteristics of the boundary between the non-recording zone and another zone are not stable; therefore, a light beam reflected from the boundary may include noise components. As shown in Figure 3C, in the case where a light beam to be focused on the read-only area is incident on the boundary, reflected light components from the boundary are mixed into a light beam used to read out data from the read-only area. However, in the structure recited in Claims 13 and 14, wherein invalid information is recorded in the read-only area, and valid information is recorded in the outer side of the invalid information, even if a light beam which is incident on the boundary is focused on the read-only area, it is possible to ensure the reliability of reproduction signals. Therefore, it is possible to read out valid information from an optical disk with high reliability, and to reproduce the data in the optical disk reliably.

Turning now to the rejection of Claims 1-8 and 10-12 under 35 U.S.C. § 102(e) as being anticipated by Yamamoto, that rejection is respectfully traversed.

Yamamoto discloses a multi-layer optical recording medium and method of manufacturing the same. More specifically, Yamamoto discloses a two-layer optical disk including a first recording layer and a second recording layer when viewed in a direction of a laser beam radiated to record or reproduce an information data signal.¹ Additionally, the first recording layer includes preformatted areas and data areas and the second recording layer includes preformatted areas, data areas and guard areas wherein the guard areas are formed at

¹ See Yamamoto, column 4, lines 45-54.

both ends of each preformatted area in the tracing direction and no data is recorded on the guard area.² Also, as shown in Figure 5, Yamamoto discloses that the guard area 14 is formed in the second layer 12 to allow multi-layered preformatted areas 5A and 5B to be aligned to exactly oppose each other within an allowable area. However, Yamamoto fails to teach or suggest a pit array including a first pit array of invalid information and a second pit array of valid information which are arranged between the inner peripheral side, as recited in new Claim 13. Additionally, Yamamoto fails to teach or suggest a non-recording zone so arranged at the inner peripheral side as to face the non-erasable information zone, as recited in new Claim 13. On the contrary, Yamamoto explicitly discloses the guard area and the data area being located outside of the data area in the tracing direction.³ Therefore, a guard area and a preformatted area are not a first pit array of invalid information and a second pit array of valid information which are arranged between the inner peripheral side or a non-recording zone so arranged at the inner peripheral side as to face the non-erasable information zone. Therefore, Yamamoto fails to teach or suggest every feature recited in new Claim 13.

Thus, it is respectfully submitted that Claim, 13 and Claims 2-11 which depend therefrom, are patentably distinct over Yamamoto. Accordingly, the rejection under 35 U.S.C. § 102(e) based upon Yamamoto is respectfully traversed. Thus, it is respectfully requested that this rejection based on Yamamoto be withdrawn.

Turning now to the rejection of Claims 1-12 under 35 U.S.C. § 103(a) as unpatentable over Yamamoto, that rejection is respectfully traversed.

As discussed above, Yamamoto fails to teach or suggest a first pit array of invalid information and a second pit array of valid information which are arranged between the inner peripheral side. Additionally, Yamamoto fails to teach or suggest a non-recording zone so arranged at the inner peripheral side as to face the non-erasable information zone. Therefore,

² See Yamamoto, column 4, lines 55-60.

³ See Yamamoto, Figures 3 and 4.

Yamamoto fails to teach or suggest every feature recited in new Claim 13, so that Claim 13, and Claims 2-11 which depend therefrom, are patentably distinct over Yamamoto.

Accordingly, the rejection under 35 U.S.C. § 103(a) based on Yamamoto is respectfully traversed. Thus, it is respectfully requested that this rejection based on Yamamoto be withdrawn.

Turning now to the rejection of Claims 1-12 under 35 U.S.C. § 102(e) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Ohsawa I, that rejection is respectfully traversed.

Ohsawa I discloses a multi-layer information recording medium and information recording and reproducing apparatus. Ohsawa I discloses a recording medium having two-layered recording layers L1, L2. More specifically, Ohsawa I discloses an optical disk which uses a recording layer made of a phase changing material on which data can be recorded or erased, each recording layer can be provided with a rewritable region in which data can be rewritten, and a prepit region which is provided with trains of emboss pits that carry addresses as sequential physical addresses and information such as recording timing.⁴ The outstanding Office Action states that it is not clear whether Ohsawa I describes overlapping address areas.⁵ The outstanding Office Action further states that Ohsawa I either inherently discloses overlapping address areas, or that it would have been obvious to one skilled in the art to overlap the address areas. However, it is respectfully submitted that this position is insufficient to show that Ohsawa I inherently teaches the claimed non-recording zone arranged at the inner peripheral side so as to face the non-erasable information zone, as claimed in new Claim 13, because the position in the outstanding Office Action fails to show “that the allegedly inherent characteristic necessarily flows from the teachings of the applied

⁴ See Ohsawa I, column 6, lines 37-45.

⁵ See the outstanding Office Action, page 4, paragraph 7.

prior art.”⁶ Additionally, it is respectfully submitted that this is not an obvious modification and that there is no evidence to modify the device taught by Ohsawa I to incorporate a non-recording zone arranged at the inner peripheral side so as to face a non-erasable information zone.

Further, it is respectfully submitted that Ohsawa I does not teach or suggest a first pit array of invalid information and a second pit array of valid information which are arranged between the inner peripheral side, as recited in new Claim 13. Therefore, this rejection based on Ohsawa I is respectfully traversed. Thus, it is respectfully requested that this rejection based on Ohsawa I be withdrawn.

Turning now to the rejection of Claims 1-8 and 10-12 under 35 U.S.C. § 102(b) as anticipated by Tsumagari, that rejection is respectfully traversed.

Tsumagari relates to a digital video recording/playback system with an entry point processing function. Tsumagari discloses a recording medium having two-layered recording layers. More specifically, Tsumagari relates to an optical disk that has information areas which include a lead-out area on the disk's outer periphery side, a lead-in area on its inner periphery side, and a data recording area between the lead-out area and lead-in area.⁷ However, it is respectfully submitted that Tsumagari fails to teach or suggest a first pit array of invalid information and a second pit array of valid information which are arranged between the inner peripheral side, as recited in new Claim 13. Additionally, Tsumagari fails to teach or suggest a non-recording zone that is arranged at the inner peripheral side so as to face a non-erasable information zone, as recited in new Claim 13. Instead, Tsumagari explicitly discloses that the lead-in area includes a rewritable zone, and that both layers include a lead-in area.⁸ Therefore, a lead-in area is not a first pit array of invalid information and a second pit array of valid information which are arranged between the inner peripheral

⁶ See M.P.E.P. § 2112.

⁷ See Tsumagari, column 6, lines 8-19.

⁸ See Tsumagari, column 8, lines 40-47 and Figure 1.

side or a non-recording zone arranged at the inner peripheral side so as to face the non-erasable information zone.

Thus, Tsumagari fails to teach or suggest every feature recited in new Claim 13, so that Claim 13, and Claims 2-11 which depend therefrom, are patentably distinct over Tsumagari. Therefore, this rejection based on Tsumagari is respectfully traversed. Thus, it is respectfully requested that this rejection based on Tsumagari be withdrawn.

Turning now to the rejection of Claims 1-12 under 35 U.S.C. § 103(a) as being unpatentable over Tsumagari, that rejection is respectfully traversed.

As discussed above, Tsumagari does not teach or suggest a first pit array of invalid information and a second pit array of valid information which are arranged between the inner peripheral side or a non-recording zone arranged at the inner peripheral side so as to face the non-erasable information zone. Thus, it is respectfully requested that this rejection based on Tsumagari be withdrawn.

Turning now to the rejection of Claims 1-8 and 10-12 under 35 U.S.C. § 102(b) as being anticipated by Ohsawa II, that rejection is respectfully traversed.

Ohsawa II discloses an information recording medium, an information reproduction apparatus and an information recording apparatus. More specifically, Ohsawa II discloses an information recording medium having a plurality of information recording layers wherein each information recording layer has an embossed lead-in area including an embossed prepit train.⁹ However, Ohsawa II fails to teach or suggest a first pit array of invalid information and a second pit array of valid information which are arranged between the inner peripheral side or a non-recording zone arranged at the inner peripheral side so as to face the non-erasable information zone, as recited in new Claim 13. Instead, Ohsawa II merely discloses an embossed lead-in area including an embossed prepit train on each information recording

⁹ See Ohsawa II, column 4, line 60 to column 5, line 19.

layer at identical radial positions from the center.¹⁰ Additionally, Ohsawa II discloses physical addresses and lead-in data recorded on the spiral tracks on the embossed lead-in area by embossed pits.¹¹ Therefore, the embossed lead-in area is not a first pit array of invalid information and a second pit array of valid information which are arranged between the inner peripheral side or a non-recording zone arranged at the inner peripheral side so as face the non-erasable information zone. Therefore, this rejection based on Ohsawa II is respectfully traversed. Thus, it is respectfully requested that this rejection based on Ohsawa II be withdrawn.

Turning now to the rejection of Claims 1-8 and 10-12 under 35 U.S.C. § 102(b) as anticipated by Nakamura, that rejection is respectfully traversed.

Nakamura discloses an optical disk, an optical disk drive and an optical disk playback method. Nakamura discloses a recording medium having two-layered recording layers. More specifically, Nakamura discloses an optical disk with a first layer and a second layer wherein the first layer has a first layer learning area and the second layer has a second layer learning area.¹² However, Nakamura fails to teach or suggest a first pit array of invalid information and a second pit array of valid information which are arranged between the inner peripheral side or the non-recording zone arranged at the inner peripheral side so as to face the non-erasable information zone, as recited in new Claim 13. Instead, Nakamura discloses a first layer learning area and a second layer learning area capable of being completely recorded.¹³ Therefore, the first learning area and the second learning area of Nakamura are not a first pit array of invalid information and a second pit array of valid information which are arranged between the inner peripheral side or the non-recording zone arranged at the inner peripheral side so as to face the non-erasable information zone, as recited in new Claim 13.

¹⁰ See Ohsawa II, column 6, lines 24-27.

¹¹ See Ohsawa II, column 6, lines 49-53.

¹² See Nakamura, page 15, paragraphs [0285] - [0291].

¹³ See Nakamura, page 15, paragraph [0291] and page 16, paragraph [312].


Therefore, Nakamura fails to teach or suggest every feature recited in new Claim 13, so that Claim 13, and Claims 2-11 which depend therefrom, are patentably distinct over Nakamura. Therefore, this rejection based on Nakamura is respectfully traversed. Thus, it is respectfully requested that this rejection based on Nakamura be withdrawn.

New Claim 14 contains analogous language to new Claim 13. As discussed above, the cited references do not teach or suggest every feature of new Claim 13. Therefore, it is respectfully submitted that Claim 14 is allowable.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. A Notice of Allowance of Claims 2-11, 13 and 14 is earnestly solicited.

Respectfully submitted,

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